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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,329	07/20/2001	Jung-Lin Pan	I-2-131.1US	3627
24374	7590	04/21/2005	EXAMINER	
VOLPE AND KOENIG, P.C. DEPT. ICC UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			NGUYEN, HANH N	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/910,329

Applicant(s)

PAN ET AL.

Examiner

Hanh Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Reply filed on 3/31/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5,9-14,18-23,27-29,33,34 and 36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,9-14,18-23,27-29,33,34 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Withdrawal of Finality***

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, 9, 10, 11, 13, 14, 18, 19, 20, 22, 23, 27, 28, 29, 33, 34 and 36 are rejected under 35 USC 103(a) as being unpatentable over Papadopoulos et al. (Pat. 5594720) in view of Malmgren et al. (Pat. 6,334,057 B1).

\*Regarding claim 1, 10, 18, 19, 28, 29, 33, 34 and 36, Papadopoulos et al. discloses determining potentially interfering ones of the other cells (cell 610, fig.6) which potentially interfere with the particular cell (cell 600, fig.6) (see col.8, lines 5-15 & col.9, lines 44-47 & col.9, lines 55-58); for each timeslot (uplink slot 606, fig.6), eliminate that timeslot (slot 606) for uplink communication, if first ones of the potentially interfering ones uses that timeslot for downlink communications (see col.8, lines 5-20); assigning a timeslot to an uplink communication of the particular cell using non-uplink elimination timeslots (allocating a slot in portion 856, fig.9B for uplink, see col.10, lines 42-48); and assigning a timeslot to a downlink communication of the particular cell to the at least one user using non-downlink eliminated times

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lots (allocating a slot in portion 856, fig.9B for downlink, col.10, lines 42-48). The system inherently forms an availability list because the system knows which cells are potentially interfering cells (see col.9, lines 44-58, col.10, lines 48 to col.11, line 24). Papadopoulos et al. does not disclose for each timeslot, eliminate that timeslot for downlink communication for at least one user, if a dynamic interference measurement in that timeslot exceeds a predetermined threshold.

Malmgren et al. discloses ( in fig.5, block 525) a mobile device determines that it is not susceptible to intercell interference during downlink transmission by measuring a signal strength received from a base station. The measured signal strength value is then compared to a predefined threshold value. A signal strength measurement above the threshold value indicate the mobile device is not susceptible to intercell interference ( a use measures intercell interference to determine if the interference exceeds a predetermined threshold, see col.5, lines 18-25 & 50-67) . Since Papadopoulos et al. performs the step of eliminating a time slot for uplink transmission if an interfering base station using the time slot for downlink transmission as addressed above, Therefore, it would have been obvious to one ordinary skilled in the art to apply the teaching of malmgren et al.into Papadopoulos et al. in order to eliminate a slot for downlink transmission when the dynamic interference measurement in the slot exceeds a predetermined threshold as suggested by Malmgren et al. The benefit is to reduce cochannel interference and to improve signal quality.

Regarding to claims 9 and 27, Papadopoulos et al.discloses a shared time division duplex system (see col.5, lines 10-15), but fails to teach that the system is a time division duplex system. Malmgren et al. discloses the system is a time division duplex (see col.3, lines 55-65.

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Therefore, it would have been obvious to one of ordinary skilled in the art to modify the shared TDD system of Papadopoulos et al into Time Division Duplex system by using the Time division Duplex system of Malmgren et al.in order to send users links in selected slots using selected CDMA codes.

Regarding to claims 2, 4, 5, 11, 13, 14, 20, 22, 23, Papadopoulos et al. teaches that the interference could be base station to base station interference or user equipment to user equipment interference (the interference could be either regular “CCI” or “mixed CCI”; (column 8, lines 31-43).

Claims 3, 12 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papadopoulos et al. in view of Malmgren et al.(Pat. 6,334,057 B1), and further in view of Andersson et al. (Pat.5,937,002).

Regarding to claim 3, 12, and 21, Papadopoulos et al.fails to teach that link gains are used to determine which cells are base station to base station interfering cells. Andersson discloses (in fig.2) a base station 1 measuring attenuation of connections F1-F3, then measuring channel interference, wherein the best channel with respect to interference is used ( see abstract, col.12, lines 25-40) ( determining interfering by using link gains between connections in a base station). Therefore, it would have been obvious to onne of ordinary skilled in the art to modify the teaching of Papadopoulos et al. as suggested by Andersson in order to determine interference between cells based upon link gains between the base stations because such an arrangement would enable the system to make use of link gains to measure interference.

***Response to Arguments***

Applicant's arguments with respect to claims 1-5, 9-14, 18-23, 27-29, 33, 34 and 36 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Advidor et al.(Pat.6144652) and Walton et al.(Pat. 6,744,743 B2) are cited to show the state of art..

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Nguyen whose telephone number is 571 272 3092. The examiner can normally be reached on Monday from 8AM to 5PM. The examiner can also be reached on alternate

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on 571 272 3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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HANH NGUYEN  
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read "H. Nguyen". The signature is written in a cursive, flowing style with a large initial "H" and a long, sweeping underline.